

## Claims:

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1. A device on a combine harvester incorporating a cleaning mechanism which comprises a sieve device including at least one sieve for cleaning the crop produced by the threshing and separating mechanisms and at least one adjustable fan for forcing a blast of air through the sieve device, whereby the opening widths of the sieve device are adjustable by means of at least one adjusting member and/or the fan is adjustable mechanically, said combine harvester including at least one sensor whose measuring signal is dependent on the loading to which the combine harvester is subjected by the crop but which is independent of the setting of the cleaning mechanism, wherein the setting of the sieve opening width is effected automatically in dependence on the measuring signal from the sensor.

2. A device on a combine harvester as in claim 1, wherein the setting of the sieve opening width and the rotational speed of the fan is effected automatically in dependence on the measuring signal from the sensor.

3. A device on a combine harvester as in claim 1, wherein the sensor detects the amount of straw in the feeder housing of the combine harvester. *not in drawings*

4. A device on a combine harvester as in claim 1, wherein the sensor detects the moisture content of the straw. *not in drawings*

5. A device on a combine harvester as in claim 1, wherein the sensor detects the amount of crop being harvested. *not in drawings*

6. A device on a combine harvester as in claim 1, wherein the sensor detects the ground speed of the combine harvester. *not in drawings*

7. A device on a combine harvester as in claim 1, wherein the setting of the opening width of the sieve device is dependent on the rotational speed of the fan.

5 8. A device on a combine harvester as in claim 1, including an evaluating unit for calculating a control signal representative of the desired cleansing setting by means of a programmed function in dependence on the measuring signal.

10 9. A device on a combine harvester as in claim 8, wherein the evaluating unit comprises a memory in which a plurality of previously determined dependencies between the desired sieve opening widths and/or the rotational speed of the fan and at least one measuring signal are stored in the form of a table or a characteristic curve or a family of characteristic curves, whereby the control  
15 signal is determined with the aid of the table or the characteristic curve.

10. A device on a combine harvester as in claim 8, wherein the evaluating unit determines the cleansing setting from a combination of several measuring signals.

20 11. A device on a combine harvester as in claim 8, wherein a new setting for the cleaning mechanism is produced by the evaluating unit in such a manner that the altered setting only becomes effective when the crop has traversed the path between the sensor and the cleaning mechanism.

25 12. A device on a combine harvester as in claim 1, including means for altering the programmed function and the stored dependencies.

not in drawing 5

13. A device on a combine harvester as in claim 1, wherein the sieve device comprises an upper sieve and a lower sieve whose opening widths are each adjustable by means of a respective adjusting member whereby the opening width of the upper sieve and the opening width of the lower sieve are adjustable to  
5 different extents in dependence on the measuring signal.

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14. A device on a combine harvester as in claim 13, wherein at least one of the upper and lower sieves comprises at least two sub-sieves whose opening widths are each adjustable by means of a respective adjusting member  
10 whereby the opening widths of the sub-sieves are adjustable to different extents in dependence on the measuring signal.

no specific means in spec.  
15. A device on a combine harvester as in claim 1, including means for restricting the possible adjustment ranges by predetermined limiting values.

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16. A device on a combine harvester incorporating a cleaning mechanism which comprises a sieve device having opening widths and including a sieve for cleaning a crop produced by the threshing and separating mechanisms, an adjustable fan for forcing a blast of air through the sieve device, means for  
20 adjusting at least one of the opening widths of the sieve device and the fan speed, and a sensor having a measuring signal dependent on the loading to which the combine harvester is subjected by the crop but which is independent of the setting of the cleaning mechanism, wherein the setting of the sieve opening width is effected automatically in dependence on the measuring signal from the sensor.